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l12 and l8	1

Database:
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- JPO Abstracts Database
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- Derwent World Patents Index
- IBM Technical Disclosure Bulletins

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Search History

DATE: Monday, June 16, 2003 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT; PLUR=YES; OP=ADJ		
L13	l12 and l8	1	L13
L12	('5704291')[PN]	1	L12
L11	l9 and l8	1	L11
L10	l7 and suction	0	L10
L9	('3678852'| '5704291')[PN]	2	L9
L8	L7 and vacuum	18	L8
L7	l4 and laser same ablat$ same (ir or infrared) same pulse	27	L7
L6	L4 and eras$ same laser same (ir or infrared or pulse)	6	L6
L5	L4 and eras$ same laser	26	L5
L4	l3 or l2 or l1	3320	L4
L3	((430/302)!.CCLS.)	1598	L3
L2	((101/478)!.CCLS.)	57	L2
L1	((101/453 |101/454 |101/455 |101/456 |101/457 |101/458 |101/459 |101/460 |101/461 |101/462 |101/463.1 |101/464 |101/465 |101/466 |101/467)!.CCLS.)	2253	L1

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Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: US 5704291 A

L13: Entry 1 of 1 File: USPT Jan 6, 1998

DOCUMENT-IDENTIFIER: US 5704291 A
TITLE: Lithographic printing members with deformable cushioning layers

US Patent No. (1):
5704291

Brief Summary Text (12):
In both of these two-ply embodiments, a single layer serves two separate functions, namely, absorption of IR radiation and interaction with ink or an ink-abhesive fluid. In a second embodiment, these functions are performed by two separate layers. The first, topmost layer is chosen for its affinity for (or repulsion of) ink or an ink-abhesive fluid. Underlying the first layer is a second layer, which absorbs IR radiation. A strong, durable substrate underlies the second layer, and is characterized by an affinity for (or repulsion of) ink or an ink-abhesive fluid opposite to that of the first layer. Exposure of the printing member to a laser pulse ablates the absorbing second layer, weakening the topmost layer as well. As a result of ablation of the second layer, the weakened surface layer is no longer anchored to an underlying layer, and is easily removed. The disrupted topmost layer (and any debris remaining from destruction of the absorptive second layer) is removed in a post-imaging cleaning step. This, once again, creates an image spot having an affinity for ink or an ink-abhesive fluid differing from that of the unexposed first layer.

Detailed Description Text (26):
When the compressible layer is partially or completely ablated, volatile decomposition ordinarily result, and some of these (particularly in the case of polyurethanes) can be harmful. Accordingly, the imaging system should contain gas-removal means for clearing these products from the imaging environment. One approach is to utilize the internal air manifold 155 shown in the '737 patent under vacuum, drawing debris and gases away from the imaging area through ports 160 (see col. 9, lines 59-63 of the '737 patent.

Current US Original Classification (1):
101/457

Current US Cross Reference Classification (2):
101/456

Current US Cross Reference Classification (3):
430/302

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments

KWIC | Draw Desc | Image

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Terms	Documents
l12 and l8	1

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L8 not l7	1

Database: US Patents Full-Text Database
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IBM Technical Disclosure Bulletins

Search: L9

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DATE: Monday, June 16, 2003 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT; PLUR=YES; OP=ADJ		
L9	L8 not l7	1	L9
L8	l5 and eras$ near10 (laser or ablat$)	5	L8
L7	l5 and eras$ near5 (laser or ablat$)	4	L7
L6	l5 and crosslink$ near5 hydrophilic and eras$	0	L6
L5	((430/302)!.CCLS.)	1598	L5
L4	('6408755'| '6399270')[PN]	2	L4
L3	L2 and hydrophilic near5 binder and eras$	6	L3
L2	((101/453 |101/454 |101/455 |101/456 |101/457 |101/458 |101/459 |101/460 |101/461 |101/462 |101/463.1 |101/464 |101/465 |101/466 |101/467)!.CCLS.)	2253	L2
L1	5836249.pn. and ablat$	1	L1

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Terms	Documents
l1 and eras$ same (laser or ablat$)	25

Database:
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- Derwent World Patents Index
- IBM Technical Disclosure Bulletins

Search: L20

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DATE: Monday, June 16, 2003 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT; PLUR=YES; OP=ADJ		
L20	l1 and eras$ same (laser or ablat$)	25	L20
	DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ		
L19	('6408755'| '6487970'| '6484638')[ABPN1,NRPN,PN,WKU]	6	L19
	DB=USPT; PLUR=YES; OP=ADJ		
L18	l1 and reus$ near5 (substrate or support)	12	L18
	DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ		
L17	(hydrophilic near5 crosslink$) and (reus$ near5 (substrate or support))	11	L17
L16	(hydrophilic near5 crosslink$) and (eras$)	17	L16
L15	(hydrophilic near5 crosslink$) and (eras$) same (laser or ablat$)	2	L15
L14	(hydrophilic near5 crosslink$) and (eras$ or clean$) near7 (laser or ablat$)	34	L14
L13	(hydrophilic near5 crosslink$) and (eras$ or clean$ or remov$) near7 (laser or ablat$)	97	L13
L12	(hydrophilic near5 crosslink$) and (eras$ near7 (laser or ablat$))	2	L12
L11	L10 and (clean$ or eras$ or remov$) near7 laser near7 ablat$	29	L11
L10	agfa$.as.	15772	L10
	DB=USPT; PLUR=YES; OP=ADJ		
L9	L8 and crosslink$	1	L9
L8	l7 and l6	2	L8
L7	('5925496'| '6210845')[PN]	2	L7
L6	l1 and (clean$ or eras$) near5 laser	39	L6
L5	L4 and remov$ near5 laser	5	L5
L4	L1 and agfa$.as.	108	L4
L3	L2 and (clean$ or eras$) near5 laser	1	L3
L2	L1 and agfa.as.	108	L2
L1	((101/453 |101/454 |101/455 |101/456 |101/457 |101/458 |101/459 |101/460 |101/461 |101/462 |101/463.1 |101/464 |101/465 |101/466 |101/467)!.CCLS.)	2253	L1

END OF SEARCH HISTORY

L Number	Hits	Search Text	DB	Time stamp
1	2253	101/453-467.ccls.	USPAT	2003/06/16 12:29
2	178	101/453-467.ccls. and zirconia and hydrophilic	USPAT	2003/06/16 12:29
3	178	101/453-467.ccls. and (zirconia and hydrophilic)	USPAT	2003/06/16 12:29
4	10	(101/453-467.ccls. and zirconia and hydrophilic) and ghosh.in.	USPAT	2003/06/16 12:29
5	1	5927207.pn.	USPAT; US-PGPUB	2003/06/16 12:30
6	1	5927207.pn. and crosslink$	USPAT; US-PGPUB	2003/06/16 12:31
7	69	101/478.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/16 12:37
8	1	101/478.ccls. and crosslink$ near10 hydrophilic	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/16 12:32
9	71	101/453-467.ccls. and crosslink$ near5 hydrophilic	USPAT; US-PGPUB	2003/06/16 12:37
10	49	(101/453-467.ccls. and crosslink$ near5 hydrophilic) and remov$ near5 image	USPAT; US-PGPUB	2003/06/16 12:39
11	3	(101/453-467.ccls. and crosslink$ near5 hydrophilic) and remov$ near5 ink near1 accepting	USPAT; US-PGPUB	2003/06/16 12:40
12	93	101/453-467.ccls. and eras$	USPAT; US-PGPUB	2003/06/16 12:40
13	68	(101/453-467.ccls. and eras$) not 101/478.ccls.	USPAT; US-PGPUB	2003/06/16 12:40

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Search Results - Record(s) 1 through 6 of 6 returned.

1. Document ID: US 6487970 B2
L19: Entry 1 of 6 File: USPT Dec 3, 2002

US-PAT-NO: 6487970
DOCUMENT-IDENTIFIER: US 6487970 B2

TITLE: Method of lithographic printing with a reusable substrate

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

2. Document ID: US 6484638 B2
L19: Entry 2 of 6 File: USPT Nov 26, 2002

US-PAT-NO: 6484638
DOCUMENT-IDENTIFIER: US 6484638 B2

TITLE: Method of offset printing with a reusable substrate

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

3. Document ID: US 6408755 B1
L19: Entry 3 of 6 File: USPT Jun 25, 2002

US-PAT-NO: 6408755
DOCUMENT-IDENTIFIER: US 6408755 B1

TITLE: Method for erasing a lithographic printing master

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

4. Document ID: US 6487970 B2 US 20010008105 A1 EP 1118472 A1 JP 2001246725 A
L19: Entry 4 of 6 File: DWPI Dec 3, 2002

DERWENT-ACC-NO: 2001-482518
DERWENT-WEEK: 200301

TITLE: Direct-to-plate method of lithographic printing involves removing ink-accepting areas from printing master by supplying cleaning liquid comprising amide and alkanolamine

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 5. Document ID: US 6484638 B2 US 20010008104 A1 EP 1118471 A1 JP 2001232963 A

L19: Entry 5 of 6 File: DWPI Nov 26, 2002

DERWENT-ACC-NO: 2001-464297
DERWENT-WEEK: 200281

TITLE: Lithographic printing method with a reusable substrate involves removing the ink-accepting areas from the printing master with an aliphatic or aromatic cleaning liquid having at least six carbon atoms

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Drawi Desc | Image

☐ 6. Document ID: EP 1080942 A1 US 6408755 B1 JP 2001105763 A

L19: Entry 6 of 6 File: DWPI Mar 7, 2001

DERWENT-ACC-NO: 2001-228212
DERWENT-WEEK: 200246

TITLE: Removal method for ink accepting area of a printing surface of a lithographic printing master using treatment with an atmospheric plasma

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Drawi Desc | Clip Img | Image

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Terms	Documents
('6408755'| '6487970'| '6484638')[ABPN1,NRPN,PN,WKU]	6

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Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: US 6210845 B1

L9: Entry 1 of 1 File: USPT Apr 3, 2001

DOCUMENT-IDENTIFIER: US 6210845 B1
TITLE: Plate precursor for lithographic printing plate, method for making lithographic printing plate using the same, and method for producing the plate precursor for lithographic printing plate

US Patent No. (1):
6210845

Brief Summary Text (5):
As materials for forming the ink-receiving image regions, many organic materials are known. They are basically formed from light-sensitive components (radiant ray-sensitive materials) and binders. As the radiant ray-sensitive materials, many materials are known. Useful negative type compositions include diazo resins, photo-crosslinkable polymers and photo-polymerizable compositions. Useful positive type compositions include aromatic diazo-oxide compounds such as benzoquinonediazides and naphthoquinonediazides. When imagewise exposure is given to these materials, followed by development and optional fixing, image regions of imagewise distribution are formed which can be used in printing.

Brief Summary Text (24):
(5) A method for making a lithographic printing plate, which comprises forming an image by irradiating the plate precursor for a lithographic printing plate described in the above (2) with a laser beam having a wavelength of 800 to 1,200 nm, and then, erasing the image by irradiating it with a laser beam having a wavelength of 10 to 20 .mu.m; and

Detailed Description Text (10):
When the laser exposure is conducted for the purpose of erasing images, there are a method of allowing a laser beam to scan imagewise by digital data and a method of allowing the laser beam to scan the whole surface to conduct exposure.

Current US Cross Reference Classification (1):
101/456

Current US Cross Reference Classification (2):
101/467

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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Terms	Documents
L8 and crosslink$	1

US 20020148375A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2002/0148375 A1

Verschueren et al. (43) Pub. Date: Oct. 17, 2002

(54) CLEANING METHOD FOR RECYCLING A PRINTING SUBSTRATE BY LASER ABLATION

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(73) Assignee: AGFA-GEVAERT, Mortsel (BE)

(21) Appl. No.: 10/068,519

(22) Filed: Feb. 6, 2002

Related U.S. Application Data

(60) Provisional application No. 60/271,857, filed on Feb. 27, 2001.

(30) Foreign Application Priority Data

Feb. 14, 2001 (EP) 01000015.6

Publication Classification

(51) Int. Cl.[7] B41F 1/18; B41F 7/00

(52) U.S. Cl. 101/450.1

(57) ABSTRACT

A method is disclosed for removing ink-accepting areas from a printing master by laser ablation, characterized in that the printing master comprises a substrate which comprises a support and a base layer, wherein the base layer contains a crosslinked hydrophilic binder and a metal oxide. The base layer prevents deterioration of the quality of the substrate due to the laser ablation. In a preferred embodiment, the same substrate is used in a number of consecutive printing cycles of on-press coating, on-press exposure, printing and cleaning.

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 232 877 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
21.08.2002 Bulletin 2002/34

(51) Int Cl.[7]: **B41N 3/00**

(21) Application number: **01000015.6**

(22) Date of filing: **14.02.2001**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(71) Applicant: **AGFA-GEVAERT**
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(72) Inventors:
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  Septestraat 27 2640, Mortsel (BE)
- **Van Damme, Marc**
  Septestraat 27 2640, Mortsel (BE)

(54) Cleaning method for recycling a printing substrate by laser ablation

(57) A method is disclosed for removing ink-accepting areas from a printing master by laser ablation, characterized in that the printing master comprises a substrate which comprises a support and a base layer, whereln the base layer contains a crosslinked hydrophilic binder and a metal oxide. The base layer prevents deterioration of the quality of the substrate due to the laser ablation. In a preferred embodiment, the same substrate is used in a number of consecutive printing cycles of on-press coating, on-press exposure, printing and cleaning.

EP 1 232 877 A1

Printed by Jouve, 75001 PARIS (FR)

(19)日本国特許庁（ＪＰ）　(12)公開特許公報（Ａ）　(11)特許出願公開番号
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（P2002－331635A）
(43)公開日　平成14年11月19日(2002.11.19)

(51)Int.Cl.'		識別記号	FI		テーマコード'（参考）
Ｂ４１Ｃ	1/055	５０１	Ｂ４１Ｃ 1/055	５０１	２Ｈ０８４
Ｂ４１Ｎ	1/14		Ｂ４１Ｎ 1/14		２Ｈ０９６
	3/00		3/00		２Ｈ１１４
Ｃ２３Ｃ	26/00		Ｃ２３Ｃ 26/00	Ｍ	４Ｋ０４４
Ｃ２３Ｆ	4/00		Ｃ２３Ｆ 4/00	Ａ	４Ｋ０５７

審査請求　未請求　請求項の数10　ＯＬ　（全 10 頁）　最終頁に続く

(21)出願番号　特願2002－35135(P2002－35135)
(22)出願日　平成14年２月13日(2002.2.13)
(31)優先権主張番号　０１０００００１５．６
(32)優先日　平成13年２月14日(2001.2.14)
(33)優先権主張国　欧州特許庁（ＥＰ）

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ベルギー・ビー2640モルトセル・セプテストラート27
(74)代理人　100060782
弁理士　小田島　平吉

最終頁に続く

(54)【発明の名称】　レーザー融除により印刷基材をリサイクルするためのクリーニング化方法

(57)【要約】
【課題】　印刷マスターの基材の品質に影響を与えることなく印刷マスターの基材を有効にクリーニングし、それにより基材をゴースト像が出現することなく次の印刷サイクルにおいて再使用することができるようにした方法を提供すること。
【解決手段】　レーザー融除により印刷マスターからインキ受容区域を除去する方法であって、印刷マスターは支持体とベース層を具備する基材を含んでなり、該ベース層は架橋された親水性結合剤及び金属酸化物を含有することを特徴とする方法を提供する。また、（ａ）支持体と架橋された親水性結合剤及び金属酸化物を含有するベース層とを具備する基材を用意し、（ｂ）ベース層上に１つ又はそれ以上の層を適用し、それにより像形成材料を得、（ｃ）像形成材料を熱又は光に像通りに露出しそして場合により像形成材料を処理することによりインキ受容区域を有する印刷マスターを製造し、（ｄ）印刷し、（ｅ）レーザー融除により印刷マスターからインキ受容区域を除去し、（ｆ）段階（ａ）～（ｄ）を繰り返すことにより再使用可能な基材で平版印刷する方法も提供する。